

Assessing Adoption of Synchronous and Asynchronous Online Learning Platforms During Covid-19 Lockdown in Nigeria

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Abstract: The study investigated the availability and adoption of synchronous and asynchronous online learning platforms in public and private schools during covid-19 lockdown in Nigeria. The study adopted ex-post facto design of non-experimental research. Users of Online learning platform in the South western states formed the population for this study. Learning platform adoption questionnaire ($r = 0.83$) was used in online broadcast message with sample selected using survey monkey for data collection. The data collected were analysed by frequency counts and t-test. WhatsApp 67 (98.5%) is the most available platform and 45 (88.2%) and most adopted platform by respondents while Meebo is the least 1 (4.3%) available platform and is not adopted at all 0 (0%). There is significant difference in the availability [$t(72) = -149.25$; $p < 0.05$] and adoption [$t(72) = -117.19$; $p < 0.05$] of online learning platforms by public and private schools. It is therefore recommended that school should avail themselves of the opportunities offered by the available learning platforms at their disposal through adoption.

Keywords: Covid-19, Availability, Adoption, Synchronous and Asynchronous

Introduction

No doubt, the novel COVID-19 pandemic has affected the global sphere not excluding the educational systems; leading to the near-total closures of schools, universities and colleges. Most governments around the world have temporarily closed educational institutions in an attempt to contain the spread of the pandemic. The Nigerian educational system has not remained the same since it records its first case of Covid-19 on 27th February 2020 which have continue to be steady rising to a total number of 5162 as at 14th May 2020. By week two of the third month, states began shutting down schools across the country temporarily as a measure to control and contain the spread of the virus. It is more than a month and there is no certainty when the physical classroom will reopen. This is a crucial time for the education sector; considering that most schools are either preparing to start or conclude the second term examinations. With days passing by and no sight to solution to the outbreak of Covid-19, school closure will affect economic activities in addition to disruption of academic activities.

As at 10 May 2020, roughly over 1.268 billion learners are affected as a result of the school closure across 177 countries of the world Nigeria inclusive. Nigeria context showed that school opportunity has a direct relationship with the level of income (National Bureau of Statistics, 2020). Income dictates enrolling students in public or private school to some extent. Schools owned privately charged fees that can only be conveniently paid people of higher social stratum in contrast to schools own by government that charged close to free. Closing schools and learning are being discussed among stakeholders such as majority of students may or may not be learning considering school responses.

In response to school closures, it become imperative that schools adopts alternative learning platforms such as online teaching to ensure that schools and teachers employ the online learning platforms to reach learners remotely and limit the disruption of education. Online teaching is a teaching technology that has become more popular all over the world in the last six to seven weeks to keep student busy at home as a result of school lockdown. The online platforms make learning accessible, interactive and fascinating when adopted. Rogers was credited with the theory of adoption of technology which has now found its way into learning nowadays. He categorized adopters of such learning platforms into five main categories; innovators, early adopters, early majority, late majority and laggards (Ogunla & Jinadu, 2014). The learning platform adopted could either be synchronous or asynchronous learning platform.

Synchronous Learning involves a learning that occurs at the same time, at different location on cyberspace. Examples of synchronous learning platform include but not limited to Skype teachings, chat rooms, zoom, Whatsapp, telegram, video conferences and webinars (Emmanuel, Abdulkadir & David, 2019). Asynchronous online learning on the other hand, afford learning to be available whenever it is required. With this, learners maintain flexibility in time, process and content. Asynchronous learning is self-paced and allows participants to engage in the exchange of ideas or information without depending on other participants' simultaneous involvement (Emmanuel, Abdulkadir & David, 2019).

While both methods can be used separately, they can also be employed concurrently to achieve a targeted teaching objective at a point in time. The technologies enables both methods to integrate into the online learning course design which is may now be adopted by institutions all around particularly in this period of covid-19 pandemic lockdown. Researchers that have examined both asynchronous and synchronous learning

platforms to inform best practices for the design of online education courses have done so within the purview of selected professional courses (Tak, 2013; Obiakor & Adeniran, 2020). Certain literature indicates asynchronous tools enjoyed extensive investigations by researchers than synchronous media owing to flexibility (Johnson, Adams, & Cummins, 2012). However, with the transition toward a student-centered environment, some expect the learner's role to shift from passive listener to engaged and active collaborator which placed synchronous communication tools to offer solution that enrich communication among students and teachers than asynchronous instruction alone (Anatsui & Fagbemi, 2014). However, the true level of such adoption to learn during covid-19 pandemic lockdown is yet to be established and thus needs further investigation, which the current study investigated.

Statement of the Problem

Novel corona virus ravaging the global community lately have hamper nearly all human sectors including the education industry. Despite the widely accepted claim that education opens the door for prosperity, growth and development, the physical classroom teaching and learning are no longer obtainable because of the danger posed by physical and social interaction involved during the process. Efforts therefore are needed to sustain the benefits derived from education to take place through teaching and learning process. A number of virtual learning platforms exist that can aptly assist the process to come to fruition. Observably, the platforms could be synchronous or asynchronous online platforms which offer similar opportunities that can be derived from the four walls of physical classrooms; therefore, this study assessed the adoption of synchronous and asynchronous online learning platforms during covid-19 lockdown.

Research Questions

1. What are the online learning platforms available and adopted in schools?
2. Is there any significant difference in the adoption of synchronous online learning platforms between private and public schools?
3. Is there any significant difference in the adoption of asynchronous online learning platforms between private and public schools?

Methodology

The study adopted ex-post facto design of non-experimental research. Teachers in Oyo state formed the population for this study. Learning platform adoption questionnaire ($r = 0.83$) was used in online broadcast with sample selected using survey monkey method specifically qualtrics survey solutions for data collection from sixty eight participants. The data collected were analysed by frequency counts and t-test.

Results and Discussion Results

Three research questions were answered in this study. These are presented in order they were raised as shown below:

Research Question 1: What are the online learning platforms available and adopted in schools?

Table 1: Availability and Adoption of online learning platforms in schools

S/N	Online Platform	Availability			Adoption		
		Total Response	Available	Not Available	Total Response	Adopted	Not Adopted
1	Whatsapp	68	67 98.5%	1 1.5%	51	45 88.2%	6 11.8%
2	Skype	35	18 51.4%	17 48.6%	27	7 25.9%	20 74.1%
3	Telegram	45	40 88.9%	5 11.1%	35	20 57.1%	15 42.9%
4	Zoom	41	32 78.1%	9 21.9%	31	18 58.1%	13 41.9%
5	Microsoft Teams	33	19 57.6%	14 42.4%	25	11 44.0%	14 56%
6	Google classroom	36	19 52.8%	17 47.2%	28	10 35.7%	18 64.3%

7	Moodle	25	4 16%	21 84.0%	21	3 14.3%	18 85.7%
8	Class dojo	27	5 18.5%	22 81.5%	22	3 13.6%	19 86.4%
9	Webinar	29	16 55.2%	13 44.8%	23	12 52.2%	11 47.8%
10	Meebo	23	1 4.3%	22 95.7%	19	0 0.0%	19 100.0%
11	Youtube	41	37 90.2%	4 9.8%	31	19 61.3%	12 38.7%
12	Email	43	39 90.7%	4 9.3%	31	20 64.5%	11 35.5%
13	Television	37	34 91.9%	3 8.1%	26	16 61.5%	10 38.5%
14	Radio	33	28 84.6%	5 15.2%	24	13 54.2%	11 45.8%
15	Blog	28	21 75.0%	7 25.0%	21	13 61.9%	8 38.1%
16	Video/audio	38	33 86.8%	5 13.2%	28	22 78.6%	6 21.4%
17	Web books	25	18 72%	7 28.0%	22	16 72.7%	6 27.3%

Table 1 shows online learning platforms available and adopted in schools. The table indicated that WhatsApp 67 (98.5%) is the most available platform and 45 (88.2%) and most adopted platform by respondents. This is closely followed by Telegram 40 (88.9%) available and 20 (57.1%) adopted, E-mail 39 (90.7%) available and 20 (64.5%) and Youtube 37 (90.2%) available and 19 (61.3%) adopted among others. However, Meebo is the least 1 (4.3%) available platform and is not adopted at all 0 (0%).

Research Question 2: Is there any significant difference in the availability of online learning platforms between private and public schools?

Table 2: Mean Difference of Availability of Online Learning Platforms

Group	N	X	SD	Df	t	Remark
Public	35	0.78	0.01	72	-149.25	0.000
Private	39	1.54	0.02			

Table 2 shows the mean difference in the availability of online learning platforms between private and public schools. The table showed that there is significant difference between the availability of online learning platforms in private and public schools $t(72) = -149.25$; $p < 0.05$. This implies that availability of online platform differ across the school type. Private school ($x = 1.54$) had higher mean score than the public school ($x = 0.78$).

Research Question 3: Is there any significant difference in the adoption of online learning platforms between private and public schools?

Table 3: Mean Difference of Adoption of Online Learning Platforms

Group	N	X	SD	Df	T	Sig
Public	35	1.53	0.02	72	-117.19	0.000*
Private	39	2.14	0.03			

Table 3 shows the mean difference in the adoption of online learning platforms between private and public schools. The table showed that there is significant difference between the adoption of online learning platforms in private and public schools $t(72) = -117.19$; $p < 0.05$. This implies that availability of online platform differ across the school type. Private school ($x = 2.14$) had higher mean score than the public school ($x = 1.53$).

Discussion of Finding

The finding on online learning platforms available and adopted in schools revealed that WhatsApp is the most available and adopted platform by respondents closely followed by Telegram in availability and adoption, E-mail, and Youtube. However, Meebo is the least available and adopted platform. This result is in tune with that of Anatsui & Fagbemi (2014) who found out that individuals are now transiting in the use of technology with

many shifting toward a student-centered environment, some expect the learner's role to shift from passive listener to engaged and active collaborators.

The result on the mean difference in the availability and adoption of online learning platforms between private and public schools showed that there is significant difference between the availability and adoption of online learning platforms in private and public schools. The availability and adoption of online platform differ across the school type with private school having higher mean score. This result corroborate that of Otunla and Jinadu (2014) who found out that many adopters of digital technology in public sectors fall along laggard and late majority. These put public institutions into lower adopters of technology compare to their private sectors.

Conclusion

The study established that adoption of synchronous and asynchronous online learning platforms during covid-19 pandemic lockdown is not that encouraging despite the availability of these learning platforms. Similarly, private school users adopted the learning platforms more than their public school counterpart. Therefore, for effective teaching and learning during covid-19 pandemic lockdown and beyond, there should be massive adoption of these educational platforms particularly, the public school users. Since, these platforms are easily accessible and user friendly by all, there should be capacity building for the facilitators piloting the affairs of teaching-learning processes on the use of these learning platforms.

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